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LOOKING AHEAD WITH COTTON

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SOME TRENDS AND SOME CHOICES

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Washington, D. C. Issued December 1945

Looking Ahead With Cotton

SOME TRENDS AND SOME CHOICES

Prepared by the Bureau of Agricultural Economics and
the Extension Service

First of the basic steps toward improving the cotton situation is fitting cotton into a balanced southern economy.

Achieving such balance concerns far more than good rotations, wise use of the soil, and other phases of efficient farm management on individual farms. It concerns how much cotton the South should grow, where and how it should be grown, and what kind of prices farmers should expect for it. It involves how much of what other products farmers should raise in connection with, or in place of, cotton. It concerns the whole question of the balance between farm and nonfarm jobs in the South—how many families would do best on the land, and how many in factories, stores, or offices.

On some farms, achieving such a balance may mean growing more cotton; on others, growing about the same quantity; on still others, cutting down sharply on cotton, or going out of it altogether.

The place of cotton and other farm products in a balanced southern economy depends largely on the best uses that can be made of the region's manpower and other resources. How can people use their time and energy to greatest advantage? How many of them will be needed to turn out farm products for the South, the Nation, and world trade? How many can be most useful in factory jobs, how many in railroad work, in the service trades, in education, medicine, and the hundreds of other callings that go to make up a modern civilization?

The demand for and the price of cotton also will have a great deal to do with cotton's future place in a balanced agriculture and a balanced economy. And the price and markets for cotton, in turn, will be greatly affected by the kind of national cotton policy we follow after the war.

It is the people themselves who will say what our policy is going to be. Making the right decision for cotton will not be easy; a great many complicated situations have to be taken into account.

TRENDS IN SOUTHERN AGRICULTURE

In deciding where we want to go and how we propose to get there, we need to take our bearings not only from our present position, but also from the general direction in which we have been moving.

Unusual conditions prevailed in the war years. Many of them already were beginning to change at the time Japan surrendered. Men and women are returning from the armed services. The shipbuilding plants, the war-plane plants, and the munitions plants are closing. Some of them will shift into peacetime production and some will not. The domestic wartime market that was taking a large part of the good grades of cotton and all of the synthetics that could be made may slow down somewhat. Export possibilities, on the other hand, may improve from their low wartime level.

Thus the present picture is not the best guide to the future. It is better to look at the long-time trends that persisted through the war or show signs of being resumed now the war is over.

TRENDS IN PRODUCTION

Since the middle 1920's the general trend in the United States has been in the direction of lower cotton acreage and higher yields per acre. During the same period there have been large shifts in the location of production, with some areas moving out of cotton rapidly and others—particularly the Delta and the High Plains—increasing cotton output. In areas and on farms that are well suited to cotton production, more and more machines are being used and other improved methods are saving man labor and are reducing costs. Farms are tending to become larger. Finally, farming in the South steadily is becoming more diversified, with particular emphasis on livestock and poultry enterprises.

More cotton on fewer acres.—Figure 1 gives the long-range picture. Present cotton acreage is not far from where it was in 1890, although in the years between, it once climbed to more than double that figure. Yields per acre tended generally to go down in the first half of the

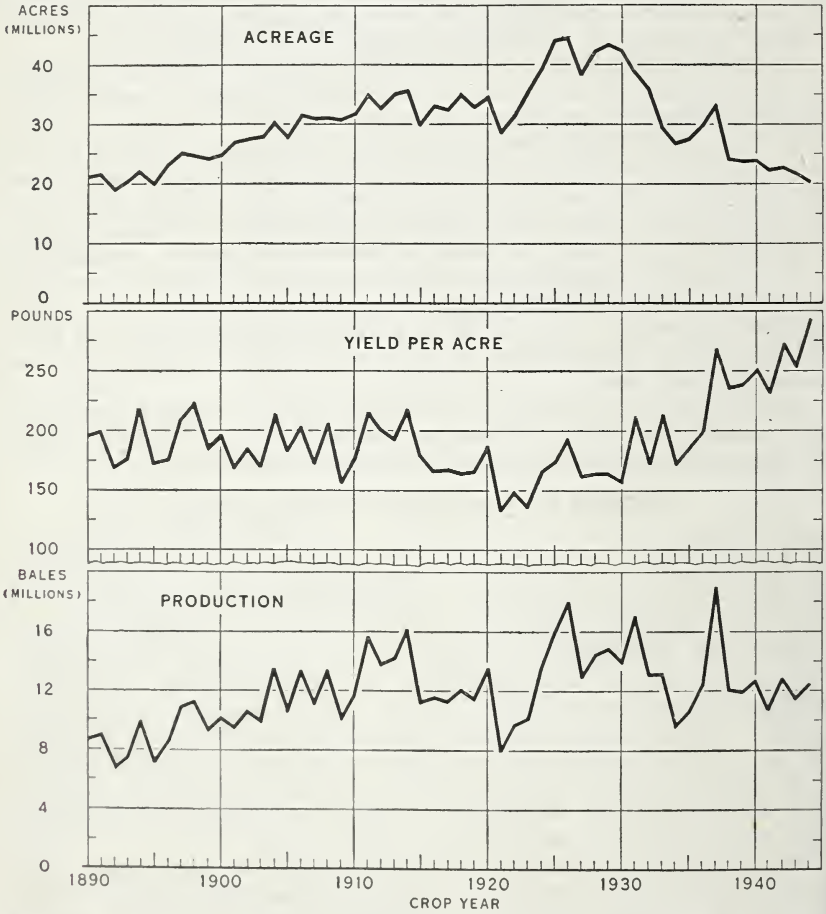


Figure 1.—Acreage, yield, and production of cotton, United States, 1890–1944.

50-year period, largely because of boll weevil damage. After the early 1920's they climbed fast to a point nearly 40 percent above the level in 1890. It is this great increase in yield that recently has changed the old relationship between production and acreage. During the last several years production has stayed around the 12-million-bale mark while acreage has kept dropping.

Several things have combined to bring about the great increase in yields. Better ways of reducing insect and disease damage have been developed. Research and educational workers teamed up with farmers to check the boll weevil in the early 1920's, and since then control methods of all kinds have been improving. Better varieties of seed have been developed and put into use. Farmers are using more fertilizer, planting more cover crops, employing better cultural practices, and taking better care of their land. More farmers have planted cotton on land best adapted to it, as they reduced their total acreage of cotton.

Everyone agrees that 1944, when cotton yields reached record heights, was an unusually favorable growing season. However, a good many also feel that there are possibilities of further increasing yields per acre on many farms and that the general rise in national average yields may continue.

Concentration in favorable areas.—Along with the tendency of farmers to use only their best adapted acres for cotton has come a trend toward concentrating cotton in the best adapted areas. Whole sections have been decreasing their acreage of cotton rapidly in recent years, while others have pretty well maintained acreage and have *increased* production materially. Figures 2, 3, and 4 tell the story. In spite of the sharp drop in national cotton acreage encouraged by the farm program of recent years, one group of areas has substantially increased cotton production above the average for 1928–32 (the AAA base period). Another group has dropped only a little in production, even though acreage reductions were large. In the third group cotton production has been falling off rapidly, almost as fast as acreage.

Despite the tendency of acreage allotments and marketing quotas to keep cotton on the farms that produced it in the base period, cotton production has continued to gravitate toward the most favorable areas and farms.

There are exceptions to the general pattern. Some individual farms in the ill-adapted areas can and do continue to grow cotton successfully. Some individual farms in the well-adapted areas are finding other farm enterprises more profitable. In some of the poorer areas, even on land not well adapted to cotton, farmers will continue to grow it in the absence of any alternative crop that will produce as much cash income. But the continuing shift of cotton production to the more efficient farms and areas is unmistakable.

Mechanization and other production efficiencies.—Mechanized cotton production does not mean only mechanical pickers and complicated flame cultivators. A farmer who changes from a one-horse plow to a two-horse cultivator has begun to mechanize. Farmers already have traveled a long way along that road. The greatest advance thus far has been in use of mechanical power. In the High Plains area, for instance, much cotton is produced with four-row tractor equipment. Clear up to harvest time an average of 4 to 5 hours per acre is all the labor that is required. Hand snapping adds 16 to 18 hours more per acre.

Even with that degree of mechanization, labor requirements in the High Plains are 23 hours per acre or less, compared with about 140 hours for cotton produced in the Mississippi Delta, with one-mule equipment and hand picking.

Studies made on the basis of average yield show that the two-row mechanical stripper, which already is being introduced on the High Plains, cuts the total labor requirement for producing an acre of cotton to less than 7 hours. In the Delta, as soon as the mechanical picker and the flame cultivator are perfected, it is likely that cotton can be produced with from 25 to 30 hours of labor per acre.

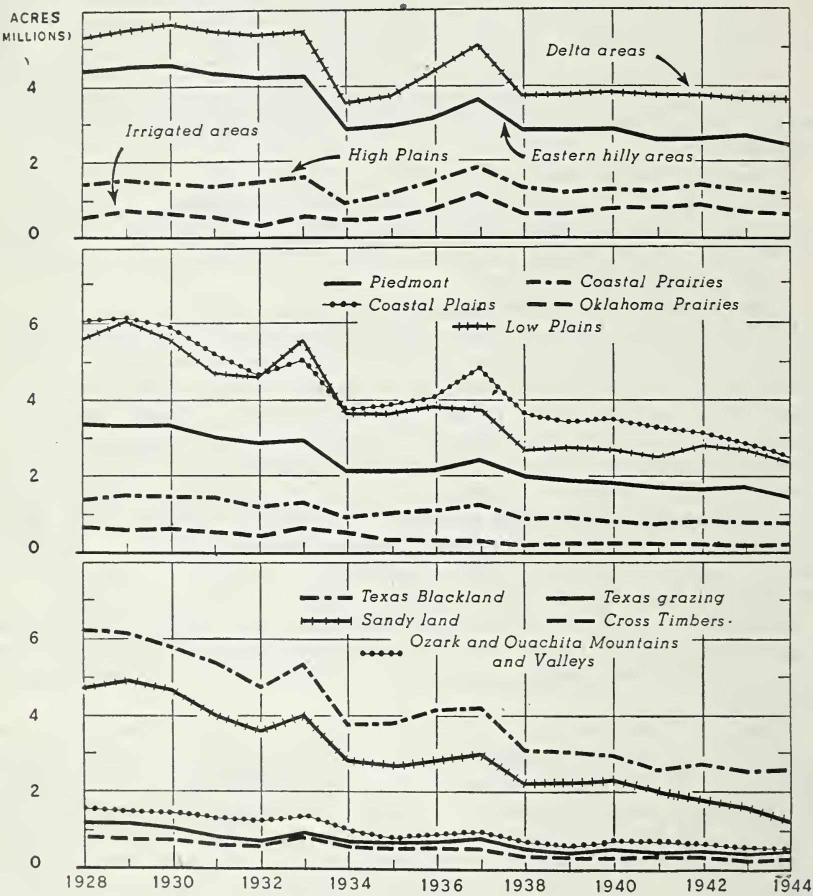


FIGURE 2.—Acreage trends of cotton by production areas, United States, 1928–44.

At present, the chief weakness of the experimental pickers is the quantity of trash they gather with the cotton. Until better pickers are developed or improvements are made in cleaning equipment at the gins, much of the saving in labor may be offset by losses in grade of cotton picked mechanically. On the other hand, even the present strippers under some conditions yield about as good a product as hand snapping.

Table 1 shows the present wide differences in man-hours required to produce a bale of cotton in different sections of the cotton South.

Tractors are replacing mules all over the Cotton Belt. In recent years, thousands of farmers who have the money to spend for tractors and who could use them profitably have been held back only by the fact that there have not been enough new tractors to go around. This year, for the first time since the war began, all Government limitations on manufacture of farm machinery are off. In the near future cotton farmers who use old-time methods will be competing not only with mechanized production in the Delta and High Plains, but also with farmers all over the South whose fields are large enough and level enough and who have enough money to buy tractors.

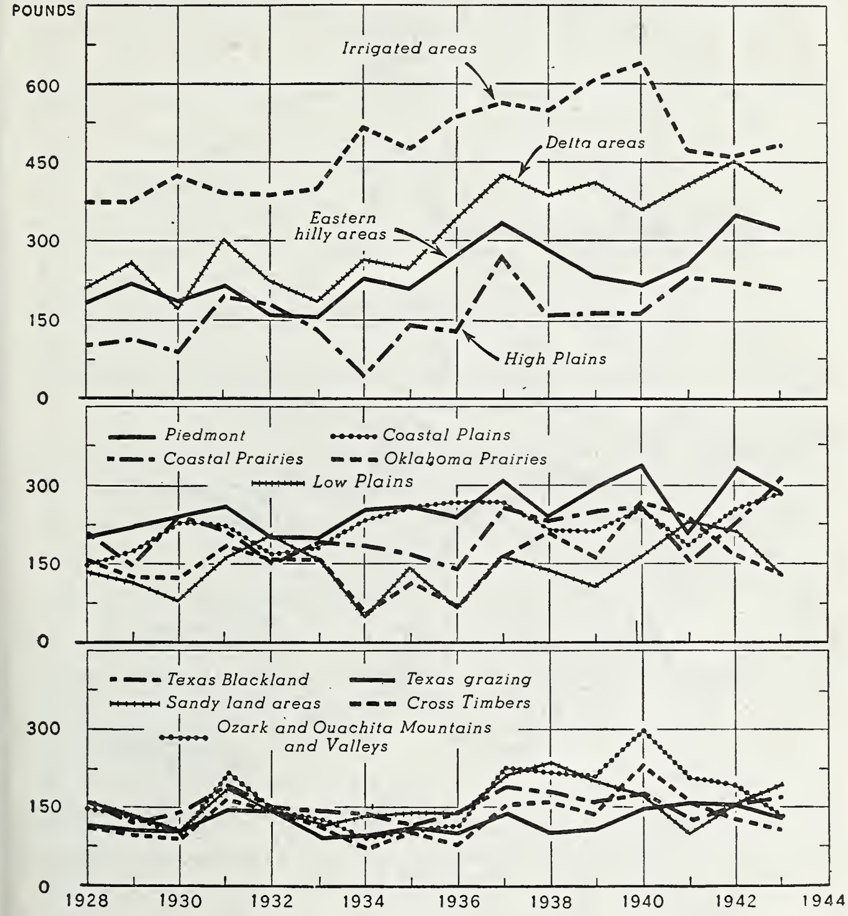


FIGURE 3.—Yield trends of cotton by production areas, United States, 1928–43.

Farm families making efficient use of power equipment can undertake larger operations than with hand methods; they can get jobs done quickly at the time they ought to be done, and usually will have a wider choice among different kinds of enterprise. For these families, wider use of machines will mean lower production costs. At the same time, the trend toward mechanization will mean a need for fewer workers in the job of raising cotton. What will be in store for the cotton growers who cannot mechanize effectively? What will be the production costs of those who can? What will happen to the present cotton farm workers who are being displaced by the machines?

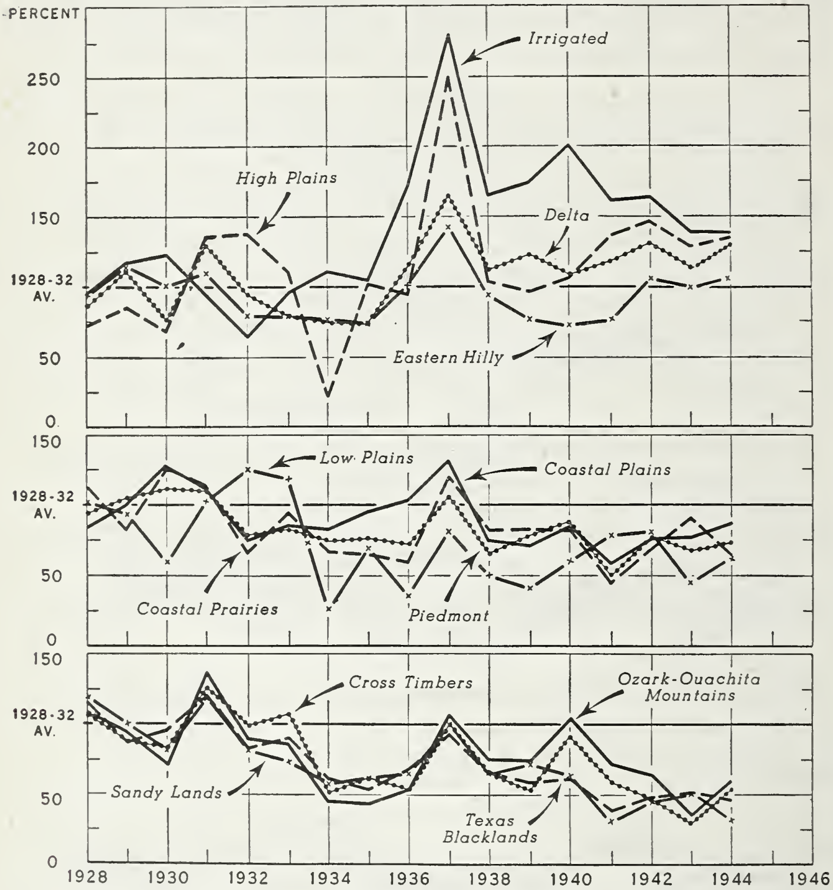


Figure 4.—Cotton production as percentage of 1928–32 average, by production areas, 1928–44.

The trend toward larger farms.—Displacement of farm families is not merely something that is going to happen in the future. It is a development that has been under way for some years. The war has speeded it up considerably, and the spread of machines and tractor

TABLE 1.—*Estimated man labor needed per acre and per bale to produce cotton with different types of power and equipment and various methods of harvesting, in specified production areas*

Production area	Type of equipment	Method of harvesting	Man-hours per acre			Man-hours per bale		
			Total preharvest	Pick or snap	Total all operations[1]	Total preharvest	Pick or snap	Total all operations[1]
			Hours	*Hours*	*Hours*	*Hours*	*Hours*	*Hours*
High Plains	2-row tractor	Snapped by hand	5.6	17.0	22.6	13.5	40.5	54.0
Do	4-row tractor	do	4.4	17.0	21.4	10.5	40.5	51.0
Do[2]	do	2-row mechanical stripper.	4.4	2.0	6.4	10.5	4.5	15.0
Blackland	2-row tractor	Picked by hand	15.0	30.0	45.0	47.2	95.8	143.0
Sandy Lands	1-row mule	do	44.0	30.0	74.0	138.6	96.4	235.0
Delta	do	do	56.0	85.0	141.0	64.0	96.0	160.0
Do	4-row tractor	do	42.0	85.0	127.0	47.0	96.0	143.0
Do[2]	do	1-row mechanical picker.	42.0	4.0	46.0	47.0	5.0	52.0
Do[3]	4-row tractor and flame cultivator.	do	21.0	4.0	25.0	23.0	5.0	28.0
Coastal Plains	½-row mule	Picked by hand	71.0	50.0	121.0	135.0	95.0	230.0
Do	1-row mule	do	59.0	50.0	109.0	113.0	95.0	208.0

[1] Does not include hauling to gin.

[2] It should not be inferred that tractors, mechanical harvesters, and flame cultivators can or will be used only in the High Plains and Delta areas. These areas are used to illustrate the effect of these machines on labor needs. They may be among the first areas in which these machines are adopted.

[3] Four times over with a 2-row flame cultivator, 3 hours per acre, plus 10 hours hand chopping. Labor needed has been based on yield per acre as follows: High Plains, 200 pounds; Blackland, 150 pounds; Sandy Lands, 150 pounds; Delta, 425 pounds; Coastal Plains, 250 pounds. These yields very closely approximate averages obtained during recent years.

power will speed it still further. In almost every Southern farming community there are farms where the tenant families have moved away, usually because the men in the family have gone to war or have taken jobs in war plants. Many owners find that with the aid of machinery and with other crops and livestock on the farm they are getting along very well with less labor. These farmers are not waiting for all of their former workers to come back after the war. In many cases, the tenant houses have been removed or remodeled for use as barns or other farm buildings. There is no place for the family to come back to. In almost every community, too, there are farmers who have expanded their holdings to adequate family size by buying up small farms around them, and they are operating the consolidated units more profitably.

How far will this movement go? Will it result in adequate-sized family farms that can yield a good living through the use of their own or custom-operated equipment? Or will it go farther and result in very large holdings operated with hired labor?

The trend toward diversification.—For years leaders in southern agriculture have preached diversification. In the last 20 years southern farmers have made great advances in broadening the base of their agriculture. In 1925, income from cotton and cottonseed was half of the gross farm income of the 10 principal cotton States. By 1943, returns from cotton and cottonseed represented a quarter of gross income. Figure 5 shows what has been happening. Much progress has been made, but too many farm families still are totally, or almost totally, dependent on cotton.

In looking ahead to the years after the war, the great questions are how much farther the South can go toward diversification, and what place cotton should have in the pattern of balanced farming everyone is working for.

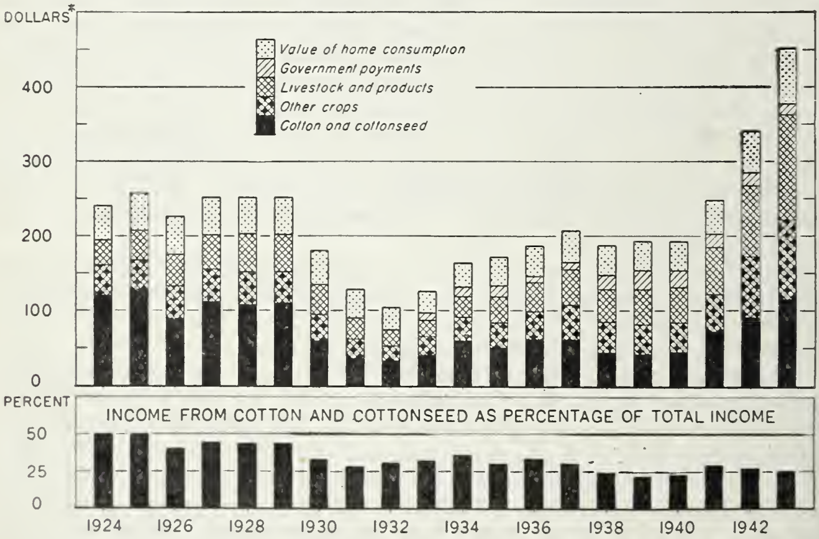
TRENDS IN THE MARKET PLACE

The trends we have looked at thus far have to do with farm *production* in the cotton South. Farmers also have to be concerned with how much cotton and other products they will be able to sell, and what kind of prices they can expect. There have been some well-marked trends in the market place for cotton.

Competitors of American Cotton

There was a time, years ago, when American-grown cotton had almost a monopoly on a large section of the textile field. Mills in this country and many of those abroad looked to United States growers for their requirements. There was no practical substitute for cotton in many uses, and this country produced most of the commercial supply. Growers were assured of markets and, unless they produced far more than the mills needed, had a fair assurance of a satisfactory price as well.

Now, American cotton no longer can take its markets for granted. Foreign growers are offering large quantities of cotton on the world market—cotton that often is just as desirable to mills as our own. Synthetic fibers, paper, and other products have been developed for many uses for which cotton alone once was suitable.



* CALENDAR-YEAR INCOME IN N.C., S.C., GA., TENN., ALA., MISS., ARK., LA., OKLA., AND TEX DIVIDED BY FARM POPULATION ON JANUARY 1 IN THE SAME 10 STATES

Figure 5.—Gross farm income per person in farm population, 10 Southern States, 1924–43.

Foreign-grown cotton.—In the years before the first World War, the combined cotton production of all other countries was small compared with that of the United States. In 1910, for example, production in India was about 3 million bales, in Egypt about 1½ million bales, and in Brazil less than half a million. In 1920 total foreign production was around 7 million bales. In 1936 it was more than 18 million. Since the recent war began, foreign production has decreased; but so has foreign consumption. By August 1, 1944, stocks of foreign cotton were at a record high level of 14,380,000 bales. The figure for August 1, 1945 was nearly as high—14,160,000 bales. Production has kept on increasing in Brazil even during the war, and in southern Brazil much new land well suited to cotton still is unopened.

During the 6 years between the 1932–33 and 1938–39 seasons, consumption of American cotton outside this country declined 46 percent, whereas consumption of foreign-grown cotton increased 69 percent.

Figures 6 to 9 show recent trends in the relative positions of American and foreign cotton in the world market. As a more detailed example of what has been happening in one of the large foreign producing countries, figure 10 gives the acreage, production, and yield trends for Brazil.

Rayon.—By far the most important synthetic competitor of cotton is rayon, which first was developed commercially in France in the 1880's. In 1920, United States production of rayon was roughly the equivalent of 23,000 bales; world production was the equivalent of about 78,000 bales. United States production of rayon in 1944 equaled 1,700,000 bales; world production in 1942 (the last year for which figures are available) equaled 8,200,000 bales.

Since rayon first was introduced commercially, the industrial processes for making it have been greatly improved. Also, beginning about 1927, the manufacture of rayon staple fiber was introduced in this country. Formerly all rayon had been made in continuous filaments. Staple fiber can be cut into any desired length and used on cotton and wool spinning equipment. By using this process many kinds of fabric effects can be obtained. Manufacture of staple fiber has increased steadily since it was introduced, and now accounts for about one-fourth of all the rayon production in this country.

Another important development in recent years has been high-tenacity rayon, which is much stronger than ordinary rayon. It is suitable for making tire fabrics and other products for which rayon formerly was not used, and is better than ordinary rayon for most uses.

In 1935 no rayon was used in tire fabrics manufactured in the United States. Cotton had the whole market. In 1943 nearly 45 million pounds of rayon were used, representing more than 15 percent of the market that had once belonged to cotton entirely. By 1944 the quantity of high-tenacity rayon used in tires was in the neighborhood of 150 million pounds (the equivalent of 450,000 bales of cotton) and represented about 40 percent of the market. Use of rayon is expected to climb still farther in 1945, to a point that will represent about half of the market that cotton monopolized 10 years ago.

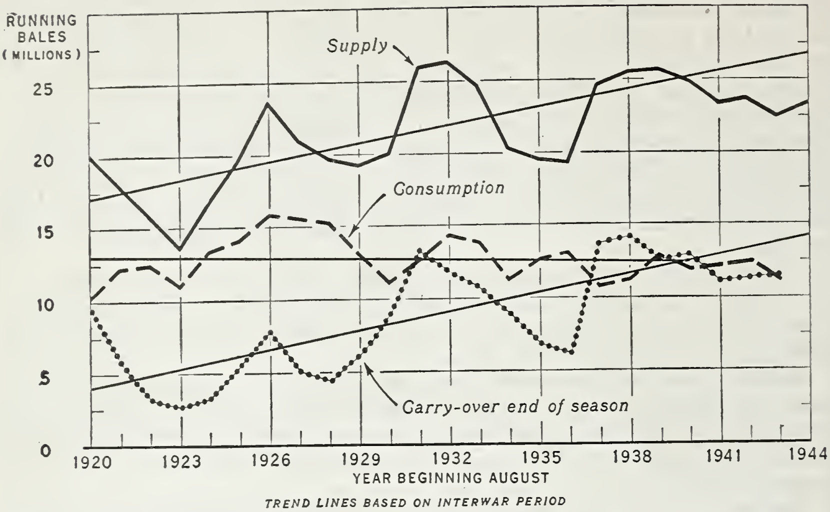


FIGURE 6.—World supply, consumption, and carry-over of American cotton, 1920–43.

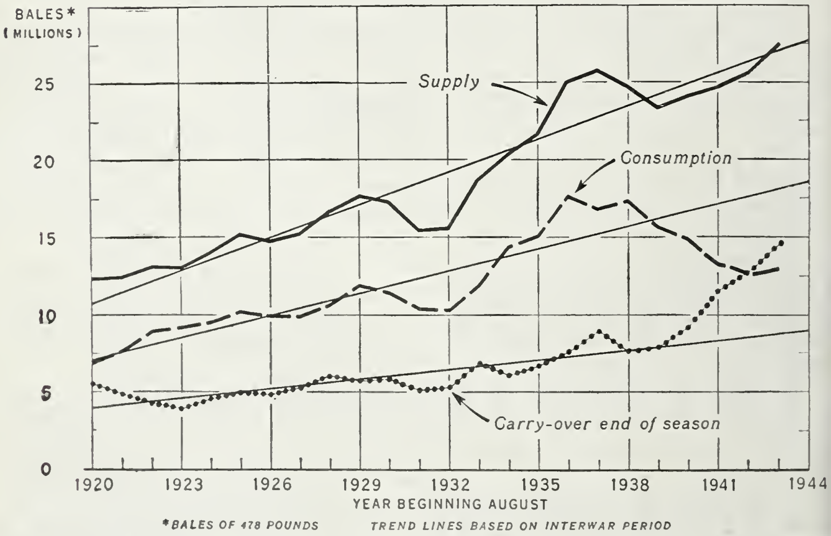
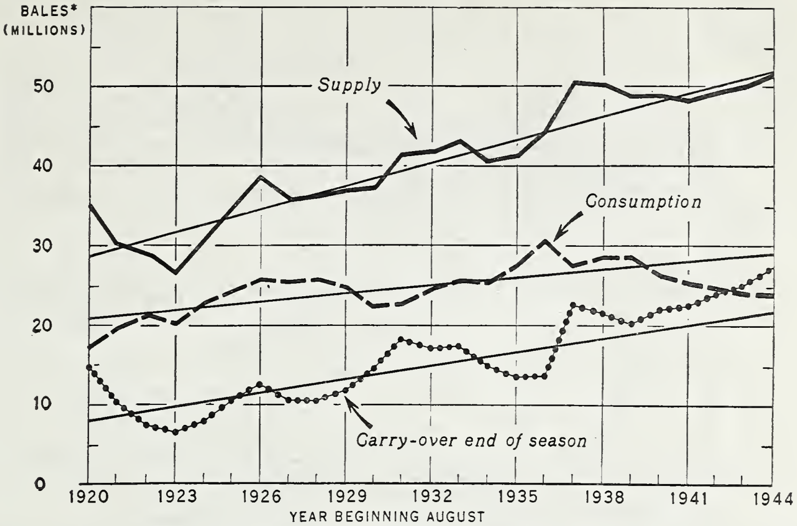
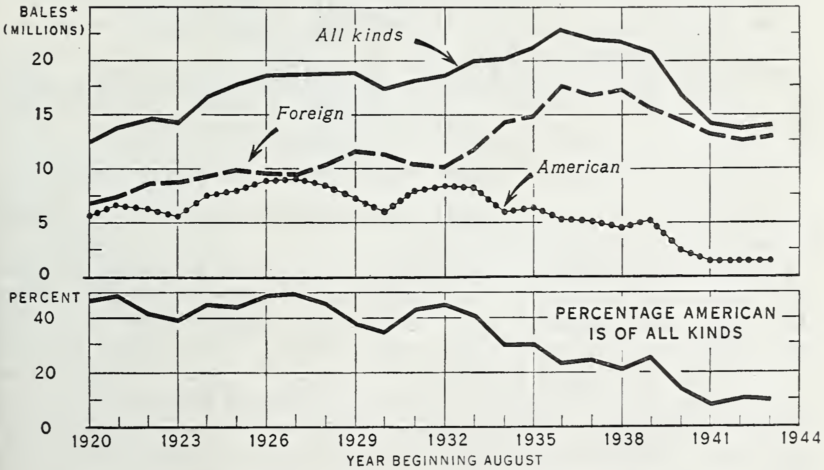


FIGURE 7.—World supply, consumption, and carry-over of foreign cotton, 1920–43.



* AMERICAN IN RUNNING BALES (COUNTING ROUND BALES AS HALF BALES).
FOREIGN IN BALES OF APPROXIMATELY 478 POUNDS NET
TREND LINES BASED ON INTERWAR PERIOD

Figure 8.—Cotton, all kinds: World supply, consumption, and carry-over, 1920–44.



* AMERICAN IN RUNNING BALES (COUNTING ROUND BALES AS HALF BALES):
FOREIGN IN BALES OF APPROXIMATELY 478 POUNDS NET

Figure 9.—Mill consumption in foreign countries of cotton of all kinds, foreign and American, 1920–43.

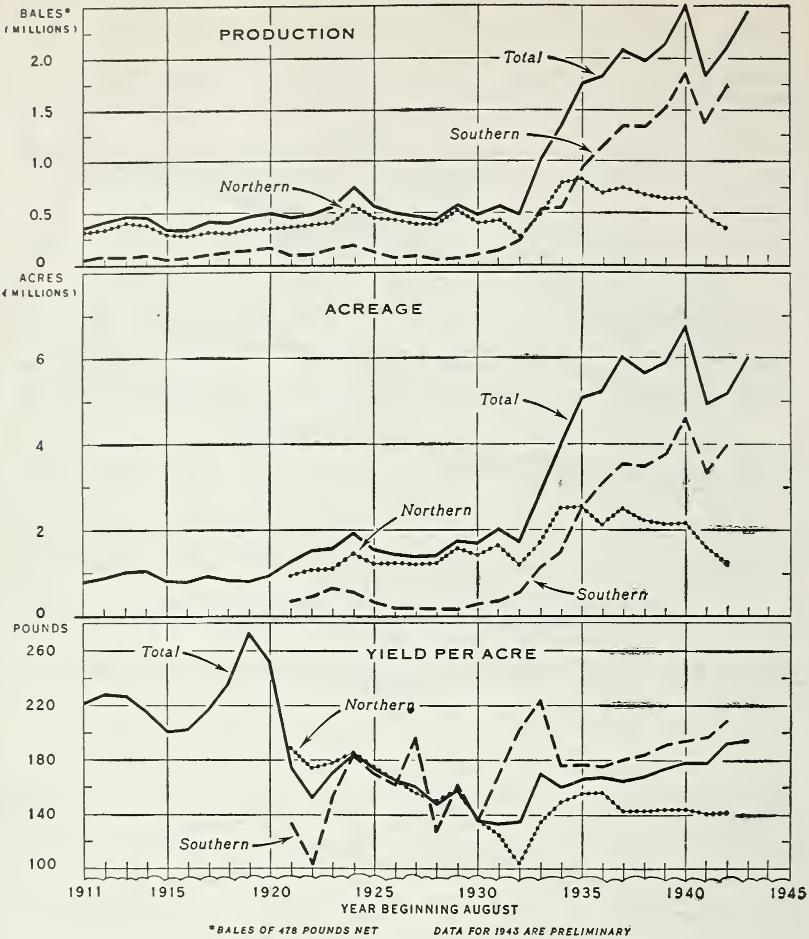
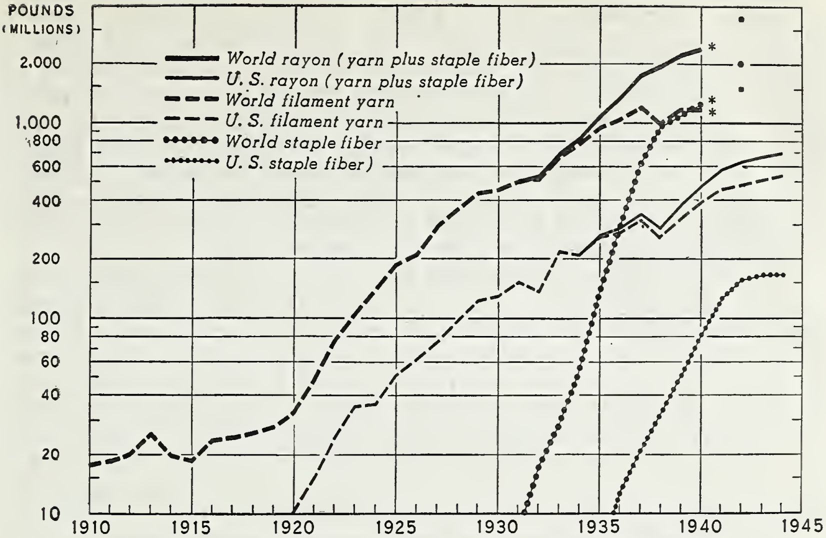


Figure 10.—Production, acreage, and yield of cotton in Brazil, 1911–43.

Figure 11 shows recent trends in rayon production in the United States and for the world as a whole.

Paper.—Paper competes directly with cotton in a number of products, such as towels, tissues, napkins, window shades, plastics, twine, and bags. The quantity of paper used in these products in 1939 was equivalent, on a pound-for-pound basis, to 1 million bales of raw cotton. It is hard to measure the actual extent to which paper is displacing cotton, especially because temporary wartime conditions changed packaging requirements. Moreover, some movement to paper from cotton was causing concern to cotton growers before the war.

Some of the stiffest competition offered by paper is in the field of bagging. Development of the kraft multiwall bag in 1924 made it possible to use paper successfully for larger and heavier packages. Between 1925 and 1942, cotton's share of the cement-bag market was reduced by two-thirds, whereas paper's share increased threefold. Table 2 shows some of the trends since 1925.



BASED ON DATA FROM RAYON ORGANON *DATA NOT AVAILABLE FOR 1941, 1943, AND 1944

FIGURE 11.—Production of rayon in the United States and the world, 1910–43

TABLE 2.—*Approximate percentages of total cement, flour, refined sugar and fertilizer packaged in various types of containers in the United States in specified years*

Commodity and year	Cotton bags [1]	Burlap bags [1]	Paper bags	Other containers	Bulk	Total	
						Quantity [2]	Percentage
Cement:[3]	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*1,000 tons*	*Percent*
1925	83	(4)	10		7	29,572	100
1930	57	(4)	30		13	29,903	100
1935	38	(4)	42		20	14,144	100
1939	35	(4)	44		21	23,058	100
1940	32	(4)	42		26	24,506	100
1941	29	(4)	40		31	31,478	100
1942	27	(4)	31		42	34,836	100
Flour:							
1934	68	19	[5] 12	1		9,580	100
1941	67	19	[5] 13	1		10,387	100
Sugar, refined:							
1930	90	(6)	3	7		6,039	100
1934	84	[6] 6	5	5		6,034	100
1940 [7]	55	[6] 9	29	7		7,198	100
Fertilizer:							
1928	2	98				7,985	100
1937	12	82	6			8,189	100
1940 [7]	24	61	15			7,839	100
1943 [8]	25	32	43			10,000	100

[1] Including both new and second-hand bags.

[2] Based on shipments of cement, production of wheat flour, disappearance of refined sugar, and consumption of fertilizer.

[3] Partly based on data given in Minerals Yearbook, U. S. Bur. Mines.

[4] Small percentages of burlap bags used during most years are included with cotton.

[5] Includes cartons.

[6] A total of 50 percent in burlap bags in 1930, 28 percent in 1934, and 15 percent in 1941, included with cotton bags since they were lined with cotton.

[7] Crop year.

[8] Rough preliminary estimate.

With exception noted, percentages are estimates based on original surveys conducted by the U. S. Department of Agriculture.

Possible expanded uses of cotton.—Cotton more and more is coming up against tough competition. As things look now from a utilization standpoint, the chief problems in the years ahead will be to protect markets for American-grown cotton from further inroads and to win back some of the ground that has been lost. In some fields, however, there may be good chances of developing new market outlets. A few of these, such as possible use of cotton fabric as filler in plastic articles, are hardly out of the idea stage. The possibility which seems to be best developed and to offer the best opportunities for using large quantities of cotton, is insulation.

For a long time cotton has been known to possess excellent insulating properties, but it was not until about 1936 that its commercial possibilities for this use began to be energetically explored. Flameproofing methods had been known for a long time, but little or no effort had been made toward applying them to cotton for insulation purposes. The principles of flameproofing and of other treatments of cotton fiber for insulation have been practiced for a few years, and a special incentive payment program by the Government to encourage this new use has been in effect since 1940. In 1944 approximately 20,000 bales of cotton were used for this purpose.

Scientific tests show that in many respects cotton is superior to other insulation material now in wide commercial use. Even if cotton were used for only one-tenth of the potential insulation market, ½ million to ¾ million bales annually would be required.

One of the chief obstacles to wide use of cotton as insulation at present appears to be price. To compete with other materials at their present price levels, cotton for insulation in many fields of the market would have to sell for about 8 cents a pound. The *average* price of cotton would not have to be that low, for cotton of 13/16-inch staple or shorter, and Low Middling or below in grade can be used successfully for the manufacture of the product. But prices for these qualities of cotton would have to be considerably below those prevailing at present. Could growers afford to sell the lower qualities of cotton at such a price? Or would they do better to raise something else?

The Problem of Price

In holding old markets or winning new ones for cotton, price is tremendously important. This has become especially true in recent years, with such large volumes of natural and synthetic fibers and other substitute materials competing for American cotton's markets. In the world market, in competition with other cotton, price usually is the determining factor. In the home market, in competition with synthetics and paper, there are a few fields in which cotton seems to be clearly better, and some in which competitors may have an edge, but to a considerable extent, comparative price is what will tip the scales.

Price trends in cotton.—As every cotton grower knows, the course of cotton prices since the relatively stable years before the First World War has been a succession of ups and downs. Figure 12 shows the record of prices for American-grown cotton in relation to parity price.

Until the early 1930's there was a close connection between prices of American cotton and the world price, which before the war was

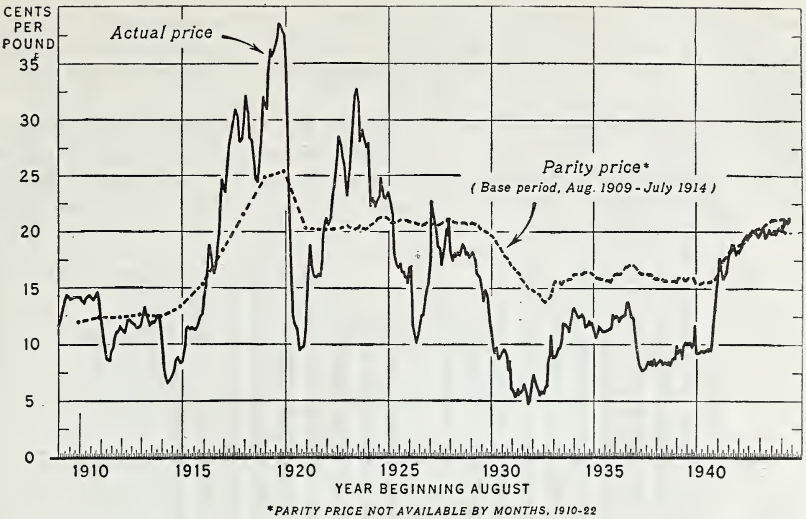


FIGURE 12.—Price received by farmers for cotton and parity price, United States, 1909–44.

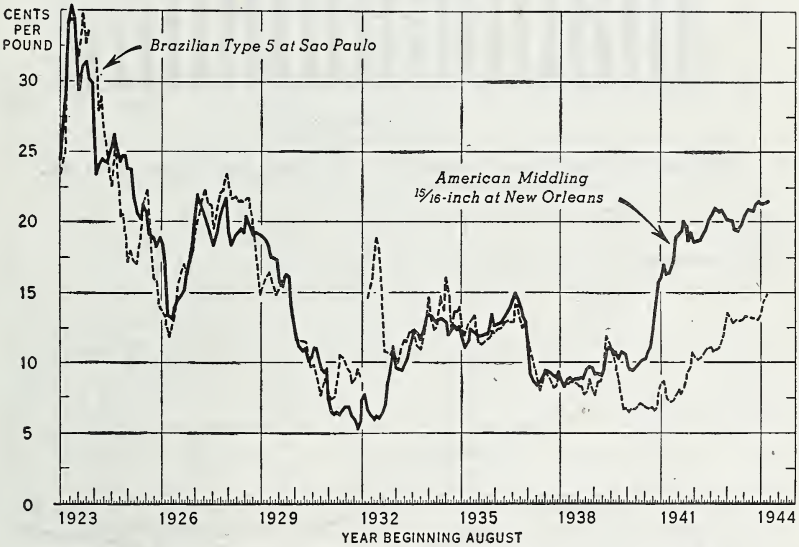
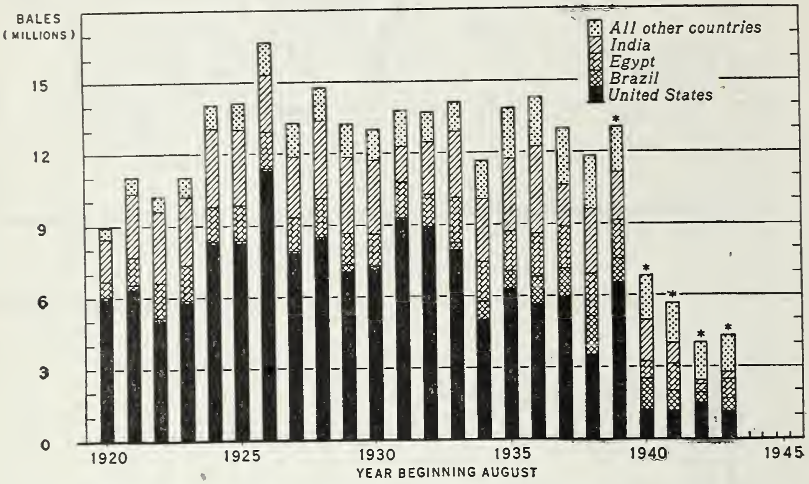


FIGURE 13.—Average spot price of cotton per pound, 1923–44.

usually best reflected in prices at Liverpool. During the war, the world price of cotton has been something of a theoretical figure largely because of shipping difficulties and the general application of internal price supports; but Brazilian prices at Sao Paulo have been about the best indication of world price.

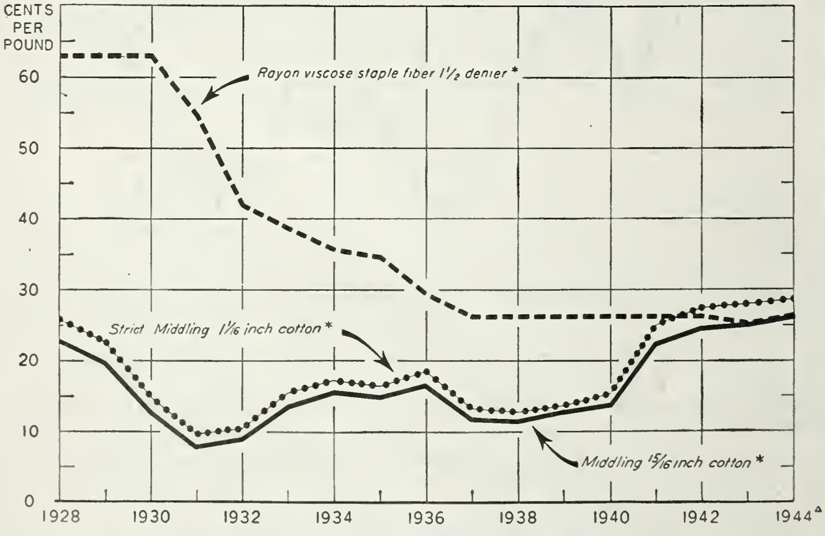
United States price and production policies have exerted a tremendous influence on United States and world cotton prices from 1933 on, but a sharp divergence between the two price levels did not occur until the outbreak of war in 1939 and the subsequent adoption of higher United States loan policies. Figure 13 shows the relationship between the United States price and the world price as represented by the Brazilian price at Sao Paulo.

Exports and prices.—Figure 14 shows the trends in cotton exports in recent years. The relationship of domestic and world prices shown in the preceding chart was, of course, only one of the factors affecting our cotton exports. The amounts of dollar exchange foreign countries



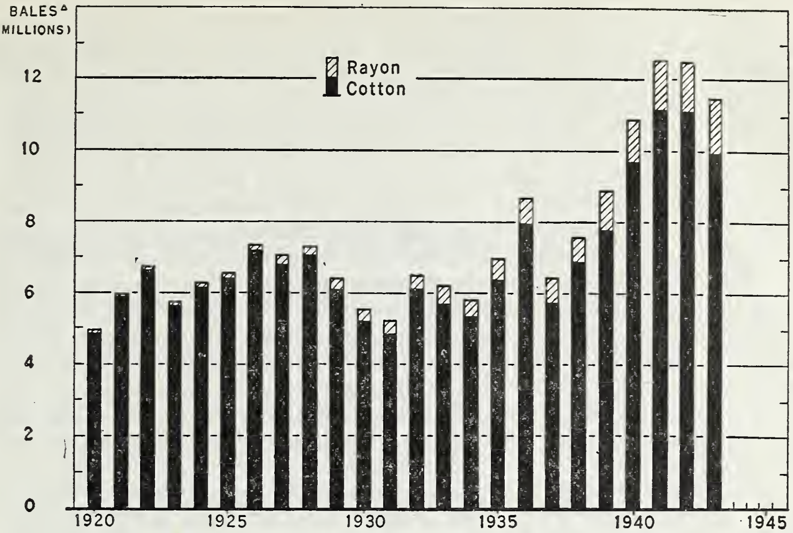
* PARTIALLY ESTIMATED

Figure 14.—Exports of cotton from producing countries, 1920–43.



* PRELIMINARY ESTIMATES OF PRICE PER POUND OF USABLE FIBER AT CONSUMING MILL
△ AUGUST - NOVEMBER

Figure 15.—Cotton and rayon: Equivalent prices of raw fiber, United States, 1928–44.



RAYON CONSUMPTION CALENDAR YEAR. COTTON CONSUMPTION CROP YEAR BEGINNING AUGUST.
△AMERICAN COTTON IN RUNNING BALES. FOREIGN COTTON IN BALES OF 478 POUNDS NET.
RAYON IN EQUIVALENT BALES OF 425 POUNDS NET

Figure 16.—Consumption of cotton and rayon in the United States, 1920–43.

had for buying our products; tariffs, quotas, special preferences, and other import restrictions; shipping problems, and the condition in which American cotton went abroad all played their part as well.

Rayon prices and consumption.—While competition with synthetics has affected our foreign trade in cotton (and can affect it more in the future) its effects have been especially noticeable in the home market. As manufacturing methods have improved and the volume of production has increased, the price of rayon has dropped steadily. Figure 15 shows what has been happening to the relationship between United States prices of cotton and rayon staple fiber. Figure 16 shows the trend in consumption of cotton and rayon.

To sum up, American cotton faces a battle to hold its place in foreign and domestic markets. The relationship between prices of American cotton and its competitors will have a great part in deciding how many of its old markets our cotton can keep or regain, and how many new ones it can win. Volume times price equals income. How many cotton farmers would benefit by larger sales at lower prices? When would different kinds of growers reach the point where lower prices meant less profits? How many farmers would find other enterprises more profitable than restricted cotton production at high prices? Or more profitable than unlimited cotton production at competitive prices? In answering these questions, problems of raising cotton and selling it are all mixed up together.

BALANCE BETWEEN AGRICULTURE AND INDUSTRY IN THE SOUTH

We have already noted the trend toward larger farms and the tendency for farm people to leave agriculture for jobs in industry or trade. These developments are far more than a production problem; they are part of the whole relationship between farming and nonfarming enterprises in the South.

The troubles that cotton is facing make up only one of the two great problems of southern agriculture. The second is the *underemployment* of so many farm people. Hundreds of thousands of families live on farms that are too small or too badly organized to yield an adequate living. Workers on these farms may seem to be busy most of the time. They may actually be working all the time on chores and repairs as well as with crops and livestock. But whether they keep their noses to the grindstone or go fishing, the truth is they do not have a large enough farming base to keep them *effectively* busy all of the time.

That is what is meant by farm underemployment. If people with so little effective work to do were in industry, they would be out of jobs half the year or more. They could be seen waiting for jobs in employment offices; they would be collecting unemployment benefits; many of them might be on relief rolls. Their problem would be out where they and everyone else could see it. Their communities and the whole Nation would know about the trouble they were in. You can't see underemployment on farms. Few know about it, and still fewer are disturbed.

Yet southern farm income, and the total income for the whole region, never can be what they ought to be while so many people are doing so much less productive work than they are capable of. Prices of cotton and other farm products could stand at parity or well above it, yet underemployed farm families still would be unable to make enough to live on.

Some of these families, of course, can fully employ their labor and resources by making better use of the land they now have. But many others will find opportunities by taking jobs in industry and trade. In doing this they will not only be improving their own chances, but will be making more land resources available to the families that stay in agriculture. In many areas of the South too many people are trying to make a living from too little land. The average of land used for crops in the South in 1939 was about 22 acres per farm worker. The average for the rest of the country was more than 48 acres. Average gross farm income in the South for the 10 years ending with 1942 was $908 per family, compared with $2,031 for the rest of the country.

Too many farmers—smaller incomes.—Generally speaking, the States that have the largest percentage of their workers in agriculture have the lowest per capita incomes. Underemployment on farms drags down the income levels of whole areas. Figure 17 shows the relationships between proportion of workers in agriculture and average per capita income from all sources.

The trend out of agriculture.—Many southern families have been leaving farms for other occupations in recent years. From 1910 to 1940 the number of workers in southern agriculture fell from nearly 7 million to about 4⅓ million. During the same period the number of persons employed in other lines of work in the South rose from 4 million to 8 million, and in addition many others left farms in the region to find work elsewhere. Since 1940 the growth of war industries in the South has added greatly to the increase in nonfarm workers.

Different kinds of nonfarm work.—In talking about the relationship of farm to nonfarm work, people often refer to the two fields as agricultural and industrial employment. But "industry" when used in that sense, does not just mean factory jobs and mining and construction work. It also means jobs in stores and offices, railways and utility companies, public service for Federal, State, and county governments, small individual business ventures, and the professions. Even in 1940, work in industry proper represented less than a third of the nonfarm employment, and it undoubtedly will be even a smaller proportion in the future.

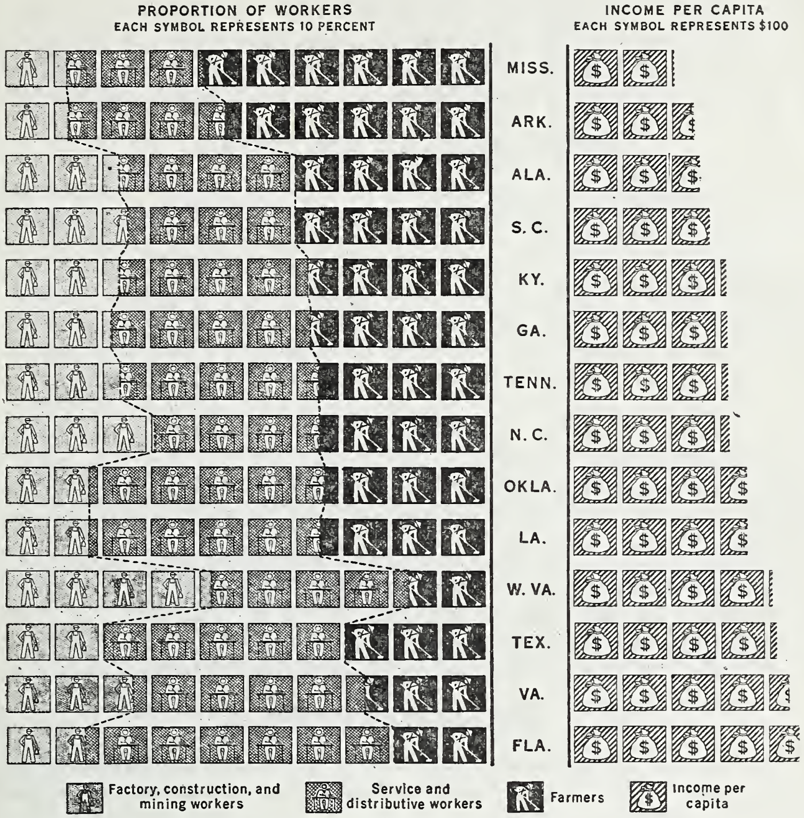


FIGURE 17.—Relation of occupations to incomes, 14 Southern States, 1940.

TABLE 3.—*Proportion of southern workers in various industries, 1910, 1940, and projected, 1956, compared with 1940 proportions in the rest of the United States*

Industry	South			Rest of United States 1940 [1]
	1910	1940	1956	
	Percent	*Percent*	*Percent*	*Percent*
All industries	100.0	100.0	100.0	100.0
Agriculture, forestry, and fisheries	60.0	34.7	17.7	13.1
Manufacturing, mining, and construction	15.6	21.3	28.7	29.1
Transportation and communication	4.5	5.1	6.0	6.9
Trade	5.8	15.8	20.0	22.9
Domestic and personal service	8.7	10.6	10.6	8.4
Professional service	2.8	5.8	7.9	8.0
Public service	0.8	2.3	2.5	2.6
Clerical occupations	1.9	4.3	6.6	9.0

[1] Based on 1940 census, reclassified to compare with earlier censuses.

Table 3 shows how southern workers were distributed by main classes of occupations in 1910 and 1940. The two other columns show how the working force might be divided in 1956 if the South were to achieve by that date the degree of industrial expansion that appears possible, and how that pattern would compare with the situation the rest of the country had reached by 1940.

The trend toward greater industrialization in the South already is well under way. The chief questions are, How many of the recent gains in wartime nonfarm employment can be held, and how can the trend toward more industrialization be maintained and speeded up?

TAKING STOCK OF THE TRENDS

We have been examining some of the trends that will affect the future of agriculture in the cotton South. They vary considerably in nature and intensity. The trend toward mechanization, for example, is so strong that its continuation seems inevitable. On the other hand, the direction of the trend in cotton prices could be changed if people make up their minds it is the wise thing to do. The trend toward greater efficiency of production is promising for the long run but is perplexing for the short run, as displaced workers seek new jobs. The rise in world cotton production and in production of rayon and other competitors of American-grown cotton are trends unfavorable to southern cotton farmers. The trend toward larger farm units may turn out to be good or bad, depending on whether the process stops with adequate family-sized farms or goes beyond that.

In preparing for the future we need to take stock of the important trends, and decide which ought to be encouraged. If a trend is unfavorable, we must decide whether it can be redirected, whether the best course is to make allowance for it and control it as best we can, or whether we just have to make up our minds to live with it as it is.

WELL-MARKED PATHS

Most people are agreed on some of the steps that should be taken, regardless of what situations arise or what decisions are made. Here are a few examples.

Efforts must continue, through research and education, to improve the efficiency of cotton production and marketing. These efforts will include encouragement of better varieties, better care of the soil, better and cheaper methods of growing cotton, and better ways of moving cotton to market through improvements in ginning, classification, and baling.

The trend toward an adequate farming base for each family remaining in agriculture must be encouraged in every possible way.

Industrialization of the South must proceed even more rapidly than in the past. Largely, this is a job of selecting and establishing suitable basic industries, either large or small. When the factories and mines are working, the expansion of retail trade, services, and the professions will follow naturally, and so will the facilities for processing and marketing the greater volume of southern farm production that people in the region will need. This is a task primarily for the citizens of individual communities, but State and Federal assistance can be useful. People who want to leave farms will need to be trained for other work, and to be helped in locating jobs.

Every wise action in the power of Government and private enterprises must be taken to establish and maintain Nation-wide full employment in the years after the war. If everyone who wants to work and can work is busy turning out useful goods or services and earning good pay, the domestic market for farm products will be strong and conditions will be favorable for rapid industrialization of the South. If many workers are idle, farmers along with everyone else will be in trouble.

World peace must be maintained and world commerce encouraged. That encouragement will mean lowering or removing trade barriers so we can sell more to other nations and buy more from them. Greater world trade is important to all farmers, mainly because it will stimulate industry in this country and so widen the domestic market for food and fibers. It is especially important to cotton farmers, for they still must count on selling a good proportion of their cotton abroad.

Efforts to improve levels of rural living must be continued and increased. This includes better housing and health facilities, better roads and other means of communication, extension of rural electrification, and better rural schools.

CHOICES

Other courses of action will be harder to decide on. This will be particularly true of price and income policies for cotton. We have seen how relatively high prices for American-grown cotton can reduce its consumption. We have also seen that even at parity prices many cotton farmers can't make enough to live on. Large cotton marketings at low prices would harm many farmers, if they could not reduce their costs and if they had no choice but to stay in cotton.

Of course, it is not price alone, or costs alone, or volume alone, but a combination of the three, that determines net farm income. Also, farmers in this country are not necessarily tied to cotton or any other one commodity. They can weigh their cotton opportunities against opportunities in other kinds of farming or in nonfarm work.

However, the cotton policies we decide on will help to determine whether farmers who would do better out of cotton are encouraged to stay in it, or whether those who could profitably grow more cotton are prevented or discouraged from doing so. These policies will also do much to determine the long-range stability of farm income and of total income in the South.

One of the important choices cotton growers must make is whether to aim for a program that deals with cotton alone or one that is integrated with the total economy of the South and the rest of the Nation. We have seen that the spread of mechanization, and the pressure of too many people against the resources of the South's farm land will keep forcing some families out of cotton production and perhaps out of agriculture. We have discussed some of the steps that need to be taken.

So the question is this: *Can farmers arrive at an effective price and income policy for cotton separate from the requirements for creating new jobs, training farm people for them, and taking all the other necessary* *steps, or should cotton policy be built especially to fit in with all the needs of all the South's people?*

The next major choice is this: *To what extent should cotton farmers plan to depend permanently on financial help from the Nation as a whole?* This aid can take a great variety of forms—income payments, financing of loan and purchase operations, export subsidies or subsidies to promote domestic use of cotton are among them. Aids of this kind required large sums in the years just before the war. They might require even larger sums after it. Some of them have been, and still can be, most helpful in emergencies. But can cotton farmers be sure that Congress always will be willing to make the necessary appropriations, year in and year out? What would happen if some year the appropriations were cut off or greatly reduced?

Finally, the most basic choice of all is this: *Will it be better to put the emphasis on price by saying that cotton prices must not fall below some fixed point (parity, for instance) or to put the emphasis on broader markets by letting the price move to the point at which American-grown cotton can compete freely with other products?*

Naturally, growers would like to have *both* the assurance of getting a relatively high price *and* the widest possible market for their cotton. There are some farm products for which minimum-price guarantees, within reasonable limits, might not reduce marketings by any serious amount. But cotton is not one of them. At home and abroad, synthetics and foreign-grown cotton are crowding it hard. Unless our cotton can meet the price competition, total sales will go down. All things being equal, the higher the margin of price protection, the smaller the market for our cotton will be.

Adequate and stable incomes are what cotton farmers, like all farmers, really are after. Not price alone, or volume or sales alone, or production cost alone is what really counts. It is the most favorable combination of the three.

Complete emphasis either on price or on volume has its serious drawbacks. High prices won't help farmers who have little to sell. Neither do larger markets at lower prices help farmers who can't get their production costs down or who can't shift to more profitable enterprises. Consequently, farmers must do far more than merely decide in general which way they want to go. They have to think their problems through and form a good working idea of how to proceed along the path they select. This, too, will require choices.

IT'S UP TO THE FARMERS

Almost any type of cotton policy can be made to work for a time. A protected-price policy, a competitive-price policy, a two-price system, any of them, could be operated smoothly for a while provided the majority of the Nation's taxpayers and the farmers who were affected accepted the program, and provided it was reasonably well administered. But sooner or later the basic choices would have to be met. We cannot have our cake and eat it, too.

The greatest question of all in deciding which way to go is not how this or that program will work in the next year or so, but, *Where will it put us 10 or 15 years from now?*

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